REMARKS/ARGUMENTS

I. Introduction

Claims 1-26 are pending. Claim 25 has been amended so that it now depends from claim 24. **The amendment to claim 25 addresses and overcomes the §112, second paragraph rejection of claims 25-26** since claim 24 provides a proper antecedent basis for the terms found in claims 25 and 26.

In addition to the antecedent basis rejection discussed above, the Examiner rejected claims 1-26 as being anticipated by U.S. Patent No. 6,073,143 to Jurgensen. As will be discussed below, the applied reference does not anticipate or render obvious any of the pending claims.

II. Discussion of the Present Invention

As discussed in the application, the invention is directed to a method and apparatus for scaling soft values prior to, or in conjunction with, error correcting decoding **where the method does not require knowledge of actual channel conditions at the time the signal is transmitted or received**.

In accordance with various exemplary embodiments of the invention, it is *assumed that the communications channel satisfies a predetermined quality*

level, e.g., channel capacity, as expressed in terms of, e.g., **a preselected channel quality value**. Given this assumption, a scaling factor is determined in the exemplary embodiments which, when applied to the input set of soft values, will produce a distribution corresponding to a channel quality matching, e.g., precisely or approximately, the assumed preselected channel quality value.

The determined scaling factor is then used in the exemplary embodiments to scale one or more soft input values prior to a decoding operation which is dependent on correct scaling.

In various embodiments the preselected channel quality value is selected, prior to scaling and decoding, to be a value near the point where the channel becomes unacceptable. The preselected value may be within or just outside an acceptable channel quality region. This point where the channel becomes unacceptable may be described as a critical point. The preselected channel quality value may be selected prior to decoding, e.g., based on the coding scheme used, and programmed into the device which will serve as a decoder. The preselected channel quality value may be selected to correspond to a channel capacity which is expected to be achieved given the coding scheme being employed. The preselected channel quality value may remain fixed during extended periods of decoding, e.g., for the life of the communications device or until the device is programmed

to support a new coding scheme or the preselected channel quality value is otherwise updated. **Thus, the preselected channel quality value is normally independent of the actual channel quality at the time a signal is transmitted through the communications channel and/or received.**

Thus, it should be appreciated that the methods and apparatus of the invention provide for the determination of the scaling factor **without the need for any knowledge or the actual channel conditions.** This is in sharp contrast to Jurgensen's method which uses an **SNR value input** which is clearly dependent on having channel quality information about the actual channel conditions.

III. The Pending Claims Are patentable

Representative claim 1 is patentable because it recites:

> A method of operating an apparatus to scale soft input values obtained, from a signal transmitted through a communications channel, as part of a decoding process, the method comprising:
>
> **computing a current scaling factor as a function of *a preselected channel quality value*** and at least one of said soft values, ***said preselected channel quality value being independent of actual channel conditions at the time said signal was transmitted;*** and
>
> scaling one of said soft values using said computed current scaling factor to produce a scaled soft value

Claim 1 and the other claims are patentable because the Jurgensen patent does not teach disclose or suggest

"**computing a current scaling factor as a function of a *preselected channel quality* … said preselected channel quality value being *independent of actual channel conditions* at the time said signal was transmitted**".

Notably, the Examiner's rejection is totally silent on the language of claim 1 that indicates that the preselected channel quality is "***independent of actual channel conditions* …**".

The abstract of the applied Jurgensen patent states:

> The invention proposes a device for generation from incoming signal values, soft values, ... According to the invention the truncation means are adapted to determine the boundaries of the limit value range in dependence on information representative **of a signal to noise ratio of the incoming signal values**. The truncated signal values, after normalization, then are output as said soft values. (Bold added)

Thus, it should be appreciated that the Jergensen patent describes a system which is dependent on the actual cannel conditions **as reflected in the use of the SNR**. This is clear in Fig. 1 of the applied reference.

This is in sharp contrast to the claimed invention where "**said preselected channel quality value**" is "***independent of actual channel conditions* …"

Applicant respectfully submits that **the Jurgensen SNR of the incoming signal values is NOT independent of actual channel conditions** at the time said signal was

transmitted and that by teaching use of the SNR the Jurgensen patent actually teaches away from the invention.

In view of the above remarks, it is respectfully submitted that the applied reference in no way anticipates or renders obvious any of the pending claims and that the rejection based on the Jurgensen patent should be withdrawn.

III. Conclusion

In view of the above remarks, it is respectfully submitted that that the pending claims are patentable and that the Application is in condition for allowance.

In the event that there are any outstanding issues which need to be resolved before the Examiner can allow the present application, it is requested that the Examiner call Applicant's undersigned representative to discuss said issues. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made and any required fee is authorized to be charged to the deposit account of Straub & Pokotylo, deposit account number 50-1049.

Respectfully submitted,

August 1, 2006

Michael P. Straub

Michael P. Straub, Attorney
Reg. No. 36,941
Tel.: (732) 542-9070

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (and any accompanying paper(s)) is being facsimile transmitted to the United States Patent Office on the date shown below.

Michael P. Straub

Type or print name of person signing certification

Michael P Straub — August 1, 2006

Signature — Date